138 498

MEMORANDUM

State Water Control Board

2111 North Hamilton Street P. O. Box 11143 Richmond, VA. 23230

SUBJECT: Greenwood Chemical Company - Albemarle County

TO: VRO File

FROM: J. A. Preston

DATE: 29 January 1976

COPIES:

On Friday, January 23, 1976, Tom Mizell, C. L. Auckerman, and the writer revisited Greenwood Chemical Company for the purpose of a plant tour and inspection of the waste holding ponds. This visit was arranged following telephone conversation with the owner/manager, Mr. Clint C. Shipman, who was in the hospital at the time but gave his verbal approval.

This staff was accompanied during the visit by Mr. Jimmy Lyon an employee of the company.

There were no manufacturing operations taking place at the time of the visit. Apparently the facility has been out of production for two to three months, as Mr. Shipman had previously stated on January 8, he had been out of production for approximately two months. The manufacturing area is in basically three buildings, possibly 50 by 100 feet each, with some attachments and separate storage areas nearby. There was a wide range of various chemical processing equipment, such as jacketed glass lined agitated vessels, tanks, condensers, mixing tanks, small air dryers, pumps, piping and equipment usually found associated with organic chemical manufacturing processes. The plant produces by batch process. The equipment was generally arranged along the inside of the outer building walls, and along an interior dividing wall. The concrete floors were in very bad shape showing significant deterioration due to attack by unknown materials. Housekeeping appeared poor. Mechanical condition of the equipment is not known but visually it was rather messy.

It was explained to us that single pass noncontact cooling water from condensers, was collected into a large PVC line on each side of the building, and directed out to a 55 gallon drum approximately 30 feet outdoors. Originally, the drum was used to supply a pump which recycled the cooling water back for reuse, however, the arrangement did not work because water use was higher than that being received at the drum at any given time, therefore the pump had been removed and the drum overflows to a runoff diversion ditch. The reduction of clean water flow into the waste holding ponds and the rainwater runoff diversion ditches on each side of the property were previously required as a condition for a Virginia no discharge certificate. Each side of the operating area in the building contained a gutter that received various stream trap discharges, cooling water from vessel jackets, and any other wastes lost and/or washed from the floor or equipment. These gutters discharged out of the corners of each building, a small pond receiving the waste separately from each building. It is impossible at this time to provide an accurate description of the waste flow arrangement and the receiving ponds. A

somewhat rough sketch is attached that represents a composite of the best determination of the flow and pond arrangements that the writer and Mr. Mizell could make following our last visit.

The grounds around the immediate working area and vicinity of the buildings were quite littered with numerous empty drums, (the ponds also contained numerous metal drums) and evidence of spillage of unknown materials. There was also evidence of flow across the ground from the buildings into the first receiving pond, although there were also pipes in the ground for that purpose. A clear flow channel or pattern was very difficult to distinguish. An old concrete walled pit was the first receiving point from the eastern most building, the concrete structure being broken, open, and allowing flow through into the next small pond. While it is presumed there is, or was intended to be, some flow arrangement organization from one pond to the next, Mr. Lyons was not able to explain the system to us, and I am sure it would take Mr. Shipman to do so. There was some evidence of overflow at one or two locations on one or more of the ponds. Flow from one pond to the next appeared to occur generally by ditch or eroded berms when one was immediately adjacent to the other. Due to the arrangement of the various ponds, and the topography of the area, all pond flows and/or ground runoff flow, inside of the runoff diversion ditches, should go into the somewhat larger pond at the lower end. Discharge from the area ultimately occurs by overflow at the south side of the final small pond (see sketch). There was no visible discharge at the time of our visit. The ponds were all frozen over to a depth of approximately 2 to 3 inches and there was ice on the ground outside the berm of the final pond at the discharge point. There is no defined channel from that overflow point to the intermittent tributary that is approximately 100 yards further down the slope at the property line.

Samples were obtained near the discharge point of the final major pond by chopping a hole through the ice. Liquid samples were submitted for pH, the nutrient series, COD, cyanide, and phenols. A sample of the bottom sediment and another liquid sample were submitted for cadmium, chromium, copper, iron, lead, zinc, and nickel. Samples previously gathered of the discharge itself on 8 January 1976 have previously been submitted for metals, nutrients, pesticides, hexane extractables, and BOD. No results have been received to date.

On the west side of the property a barrel disposal trench has been dug. This trench is approximately 150 feet long by 15 feet wide by 15-20 feet deep. The south end of the trench was nearly full of a mixture of 55 gallon metal drums, various fiber and plastic drums and carboys along with assorted trash. Some of the drums were seen to contain solid waste products. Upon questioning, Mr. Lyons said that some of the drums did contain liquid waste materials, although we were not able to physically verify this. Numerous other drums were scattered through the length of the trench and it was not being covered or packed. Although this staff is not experienced in matters of vector control, there was no obvious evidence of infestation or rodents at this site. However, there were numerous muskrat or goundhog holes in the berms of the various ponds. The regional giologist is being requested to make an assessment concerning possible groundwater contamination by seepage from lagoons and/or the drum burying operation.

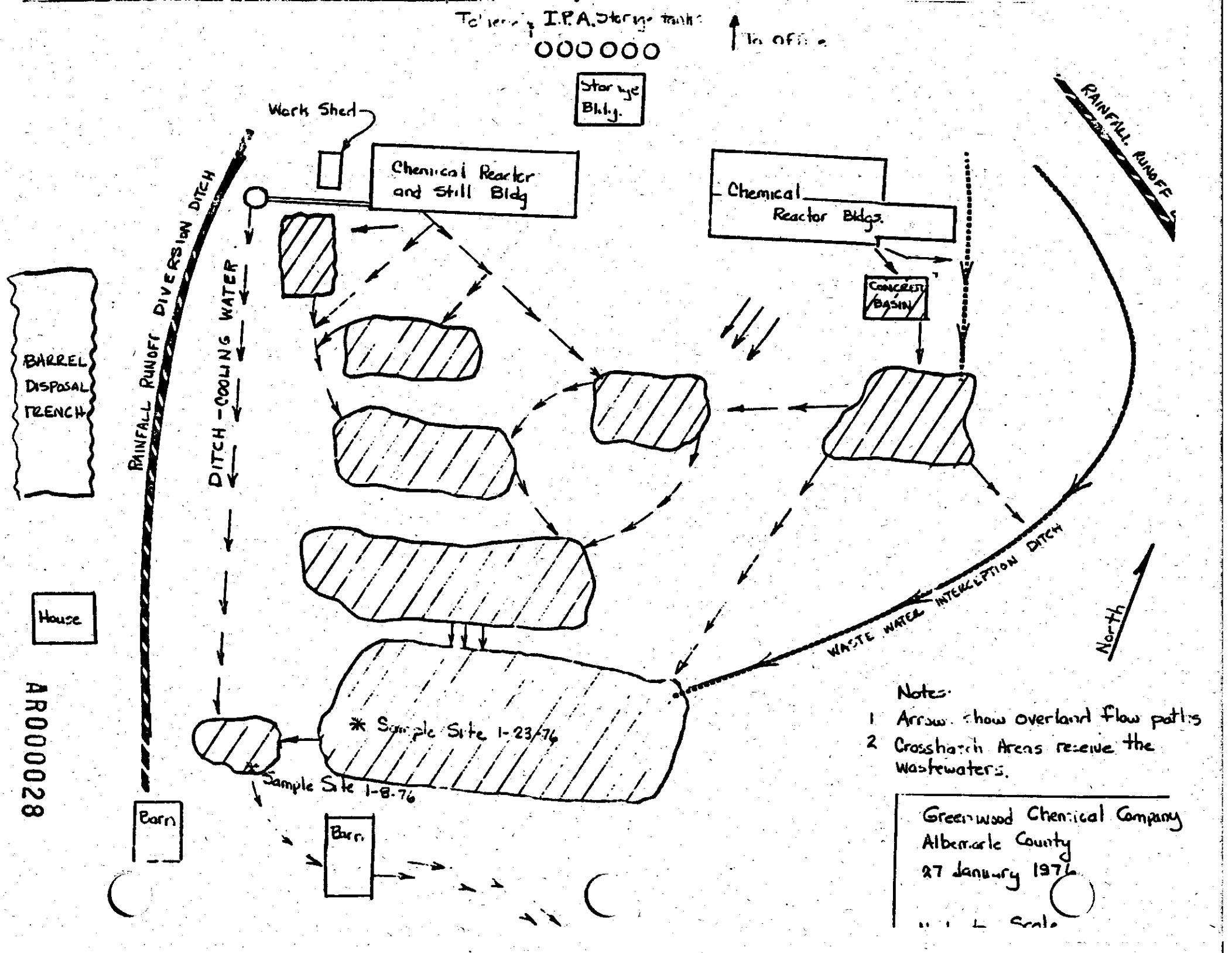
On the front side of the plant's main building,s is a storage building for what appeared to be raw materials in various types of drums. Behind this building, upgrade, (see sketch) there are 6 vertical storage tanks, estimated to 1500 - 2000 gallons each, 5 of which were labeled Toluene, and one Isopropyl Alcohol. An

earthen dike surrounds these tanks and it was visually estimated that the dike could contain the full volume of at least one tank, possibly two. The requirements for an SPCC plan will be sent to Mr. Shipman.

VRO will pursue having the final pond berm immediately raised sufficiently in order to stop any discharge. Following that Mr. Shipman will be required to provide the necessary information in applying for a no discharge certificate, and in that process it would appear at this time that considerable upgrading of the lagoon facilities and possibly additional facilities will be necessary in order to assure a no discharge situation to our satisfaction, and with consideration of what the potential threat may be in relation to the content of the ponds.

JAP:jf

Attachments


To Terry's I.P.A. Storage tanks
To office
Work Shed
Storage Bldg.
Chemical Reactor and Still Bldg
Chemical Reactor Bldgs.
RAINFALL RUNOFF
RAINFALL RUNOFF DIVERSION DITCH
DITCH - COOLING WATER
CONCRETE BASIN
BARREL DISPOSAL TRENCH
House
WASTE WATER INTERCEPTION DITCH
North
* Sample Site 1-23-76
Sample Site 1-8-76
Barn
Barn
Notes:
1 Arrows show overland flow paths
2 Crosshatch Areas receive the wastewaters.
Greenwood Chemical Company
Albemarle County
27 January 1976
Scale

AR000028